The Federal Aviation Administration (FAA), Mike Monroney Aeronautical Center, has a requirement for the following:

1) Symbol PPT 8800 Scanner or Equal Name Brand: Intel Xscale 400 MHz processor, Microsoft Windows Mobile 2003 for Pocket PC Operating Platform, 64 MB RAM/64 MB ROM Memory, Color display, Microsoft SDK compatible, application programming interface (API). P/N PPT8800-R3BZ0000
2) Serial Charging Cable P/N 25-38383-01
3) PPT 8800 Universal Cable Cup P/N UCC8800-00
4) Attachable cables:
   Auto Charging Cable P/N CBL-8800-100-VCA
   DEX Cable P/N CBL-8800-100-DEX
   Zebra/Monarch Printer Cable P/N CBL-8800-100-ZEB
   Comtac/Paxar Printer Cable P/N CBL-8800-100-PAX
   O'Neil Printer Cable P/N CBL-8800-100-ON1
   Wall Outlet Charging Cable and Line Cord P/N 50-1400-107 & 50-16000-182
   USB Cable (Windows 2003 only) P/N CBL-8800100USB
5) Single Slot Serial Cradle P/N CRD8800-100S
6) Single Slot Serial Cradle B P/N CRD8800B-1000S
7) 4-slot Serial Cradle P/N CRD8800-4000S
8) Trigger handle P/N TRG8800-00
9) Holsters:
   Easy Release Clip P/N 21-58842-01
   Velcro Holster with belt P/N 21-58840-01
   Slim case P/N NE1766
10) Neck strap P/N NE8623
11) Spare hand strap P/N NE0980
12) Spare Battery P/N 21-60332-01
13) Larger capacity battery:
   Kit with door P/N KT-61579-01
   Spare LCB P/N 21-60332-01
14) UBC 2000 Battery Adapter:
   Adapter P/N 21-32665-37
   Charging Station P/N UBC2000-1500D
15) Stylus:
   3-Pack Plastic P/N 160-0362
   500-Pack Plastic P/N 11-35244-500
   3-Pack Tethered P/N 11-43912-03
   50-Pack Tethered P/N 11-43912-50
16) Laminated Bar Code Labels (See Appendix A for specifications)

The FAA contemplates a single award with an Indefinite Delivery/Indefinite Quantity type contract with fixed unit prices for the acquisition. The contract will have a Base Year and two (2) one-year options with a guaranteed minimum annual quantity in the Base Year of 150 scanners. The North American Industry Classification System (NAICS) code is 334119.

The acquisition will be accomplished in two phases. Phase One: Offeror submission of two (2) or Equal Name Brand if not providing the Symbol Technologies PPT8800 Scanner. Offerors bid samples should meet the outlined salient characteristics under each item, but any item or combination of items may be ordered. Salient characteristics are as follows: the scanner must be a CE operating system with 64 MB RAM, 1D Scan engine, Color display, Microsoft SDK compatible, rechargeable

batteries, cradle, application programming interface (API). The scanner must work with existing FAA developed software. Any offeror's bid sample failing to meet the testing procedures will be eliminated from further consideration. Bid samples will undergo testing and evaluation by the FAA against established specifications and standards. Offeror's bid samples will be evaluated according to published criteria contained in the FAA's Screening Information Request 1 (SIR) package. The FAA will assess the offeror's capability to meet the FAA's requirement and only those offeror's whose bid sample is found to be acceptable will be afforded an opportunity to participate in the second phase of this acquisition process.

Phase Two: Issuance of a Request for Offer (RFO) for submission of price proposals by offerors having successfully completed the first phase. The second phase, which will be accommodated by SIR 2, involves the issuance of a Request for Offer and submission of priced proposals.

The FAA has determined that this requirement must comply with the accessibility standards under Section 508 of the Rehabilitation Act of 1973. Offerors must submit a certification of compliance with the standards for consideration for this award.

All interested sources must submit requests for SIR 1 in writing to FAX number 405-954-9219 or via the Internet, maria.s.blair@faa.gov

FEDERAL AVIATION ADMINISTRATION

Asset Identification Specification

Asset Supply Chain Management (ASCM)

Version 2.4

November 18, 2003

Prepared by the:
NAS Logistics Property Management Division, AFZ-500
Resource Management Directorate
Airways Facilities Service
Air Traffic Services

Revision History

Author	Date	Version
AFZ-500	11/21/2002	v1.0
UCC®	4/15/2003	v1.1
UCC®	5/29/2003	v2.0
AFZ-500	6/10/2003	v2.1
AFZ-500	6/24/2003	v2.2
UCC®	7/25/2003	v2.3
AFZ-500	11/18/2003	v2.4

Table of Contents

1. Introduction

This document describes the attributes of the Federal Aviation Administration (FAA) asset identification specification as developed by AFZ-500, NAS Logistics Property Management Division and the Uniform Code Council, Inc. (UCC®). This specification is in conformance with the UCC Global Individual Asset Identifier (GIAI) standard. This specification shall be used FAA-wide for asset identification.

1.1 Purpose

The purpose of this document is to establish a bar code specification that defines the format, standard, location and definition of the bar code label for identifying all FAA assets. The standard consists of a bar coded label that encodes a globally unique number designed to link the physical asset to attributes about the asset in the FAA database. It is intended that the asset label and the information in the database provide all required identification of the asset over its entire serviceable life cycle.

The FAA bar code label will normally be permanently affixed, by adhesive, to the asset. It will provide both a human readable asset reference number in text format and machine-readable bar code information. In certain circumstances the bar code label may be directly marked, etched or embedded on the item. The FAA bar code label becomes the "license plate" against which all the attributes of the asset may be recorded and with which the same information may be quickly and easily referenced and/or retrieved.

1.2 Scope

The scope of this document is to apply to all FAA assets used in the performance of its mission. This includes all personal property assets owned or controlled by the FAA used in the National Airspace System (NAS) as well as all other FAA assets. These assets are located within all FAA facilities as well as vendor facilities.

Asset labels must be able to withstand many environments (indoors, outdoors and the extreme heat and cold therein, exposure to solvents, oils, alcohol, etc.). Outdoor environments include locations in the U.S. as well as international locations where FAA assets exist. Labels must also be able to withstand periodic cleaning with water and detergent.

This specification applicable to asset identification as defined in Order 1375.XX.

1.3 References

1.3.1 ISO/IEC 15416 Information technology – Automatic identification and data capture techniques – Bar code print quality test specification – Linear symbols (See Table of Contents in Appendix, Section 9.3)

1.3.2 ISO/IEC 15417 Information technology – Automatic identification and data capture techniques – Bar code symbology specification – Code 128 (See Table of Contents in Appendix, Section 9.4)

1.3.3 General EAN.UCC Specifications

1.3.4 International Organization for Standards (ISO)

www.iso.ch

1.3.5 Uniform Code Council, Inc. (UCC®)

www.uc-council.org

1.3.6 EAN International (EAN)

www.ean-int.org

1.4 Data Representation

1.4.1 Symbology

The bar code symbology is UCC/EAN-128.

1.4.2 Printing

The bars in the bar code and the human readable portion of the asset identification labels should be printed black on a white background. The printed symbol shall be ISO/IEC Grade 3.0 or better at time of printing. All labels should be printed with a protective surface laminate that results in an ISO/IEC symbol grade of 2.0 or better at the time of lamination. These two parameters are designed to ensure an ISO/IEC symbol grade of 1.5 in the label's final form.

1.4.3 Print contrast

Print contrast is to be measured per ISO/IEC 15416. Follow the EAN.UCC standard, which is 1.5/10/670 – symbol grade/measuring aperture/wave length; this references the ISO/IEC 15416.

1.5 Durability and Maintenance of Labels

It is recognized that some asset labels may be exposed to environments so harsh as to render them unreadable after a period of time. For that reason, those personnel tasked with the regular tri-annual inventory of assets, per Order 4650.21C Management and Control of In-Use Personal Property, are to ensure that asset labels are successfully scanned, and in the event of an unsuccessful scan the label is to be replaced following the FAA-approved procedure.

2. Data Requirements

2.1 Mandatory Data

2.1.1 Application Identifier

2.1.2 EAN.UCC Company Prefix

2.1.3 Asset Reference

2.2 Symbol Syntax

This is the grammar, structure, and order of the elements.

2.2.1 Symbol

<ST><FNC1><AI><EAN.UCC Company Prefix>< Asset Reference><Symbol Check Character><Stop>

2.2.1.1 <ST>: Symbol start character

2.2.1.2 <FNC1>: An element built into the bar code providing unique data integrity. It tells the scanning application that the data that follows will be in the EAN.UCC format and that Application Identifiers will be used to identify the data. It is called: 'function code one'.

2.2.1.3 <AI>: Application Identifier. The Application Identifier (AI) for assets is 8004. It tells the scanning application that the data that follows is an asset number. This prevents common errors, like a serial number being mistaken for an asset number.

2.2.1.4 <EAN.UCC Company Prefix>: Unique company identification assigned by the UCC® to members. It ensures the asset number is unique worldwide.

2.2.1.5 <Asset Reference>: Unique variable length field. FAA assets are to be identified with a 9 character numeric field assigned by the holder of the EAN.UCC company prefix. A unique reference is assigned to each instantiation of the asset.

2.2.1.6 <Symbol Check Character>: A symbol character included within a UCC/EAN-128 Symbol, the value of which is used by the bar code reader for the purpose of performing a mathematical check to ensure the accuracy of the scanned data. It is not shown in Human Readable Interpretation. It is not input to the bar code printer and is not transmitted by the bar code reader. It is built into the symbology

2.2.1.7 <Stop>: symbol stop character

2.2.2 Human Readable

2.2.2.1 Human readable text is to appear *above* the symbol. The human readable text is not encoded; it is represented as follows:

Legacy Assets:
Property of DOT/FAA

2.2.2.2 Human readable text is to appear *below* the symbol. The human readable text is represented as follows:

Legacy Assets:
(8004) NNNNNNN NNNNNNNNN
Contractor Bar coded assets:
(8004) NNNNNNN NNNNNNNNN
Spaces and brackets are for readability only.
Parentheses and Spaces are not encoded in the label, and are for human readability only.

3. Asset Label Specifications

Figure 3-1 Label Specifications

Label	X-Dimension (inches)	Quiet Zone (inches)	Label Size (inches)	Bar Height (inches)	Human Readable Minimum Character Height (inches)
A – Large Bar Code	0.0100	.100	2.00 x 0.500 with corner radius	0.25	0.063 (6 pt. True Type Arial)
B – Medium Bar Code	0.0066	.066	1.38 x 0.375 with corner radius	0.15	0.063 (6 pt. True Type Arial)
C – Small Bar Code	0.0066	.066	1.38 x 0.25 with corner radius	0.15	0.063 (6 pt. True Type Arial)

4. Sample of labels

Samples shown are to scale.

Data:

(8004) UCC Global Individual Application Identifier for an asset.

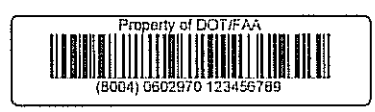
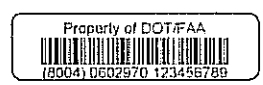
UCC Company Prefix assigned to the FAA: 602970

Conversion of UCC Company Prefix to EAN.UCC Company Prefix: 0602970

Asset reference assigned by FAA to asset: 123456789

DOT/FAA text, Parentheses and Spaces are not encoded in the label, and are for human readability only.

Figure 4-1 Samples of Labels

Description	Sample Labels
A - Large Asset Bar Code	
B - Medium Asset Bar Code	
C – Small Asset Bar Code	

5. Materials

5.1 Resistance

The printed bar code image must be resistant to oils and solvents commonly used in the repair of printed circuit boards, such as water, alcohol, trichlorethane and hydrocarbon based solvents. Labels may be exposed to mechanical scrubbing using these solvents.

5.2 Specular reflection

5.2.1 Substrate, laminate & imaging media

Specific attention must be paid to the combination of label substrate (e.g., paper, metal, plastic, glass, ceramic, etc.) laminate (such as lacquer, clear tape, plastic over-wrap, etc.) and imaging media (e.g., ink, thermal transfer resin, photographic emulsion, etching, etc.) such that specular reflection is minimized.

5.3 Composition

The substrate for the asset label may be comprised of a variety of materials such as, but not limited to, bare and painted metals (i.e., steel and aluminum), various plastics, printed circuit boards, glass and wood.

5.3.1 Application temperature

Labels will be applied at temperatures between 50 and 100 degrees Fahrenheit. Once applied the label must retain adhesive properties over an exposure range of –40F to +200F.

5.4 Service environment

During its service life the label may be exposed to direct sunlight, rain, snow, ice, and to various solvents, degreasers, varnishes, oils, detergents, paints, mineral oil, solder flux and environmental temperatures ranging from –40F to 200F.

Asset labels should be produced so that, when scanned, they will reflect a minimum symbol grade of ANSI 2.0 (See 1.6 for ongoing maintenance.).

6. Label Placement

Asset identification labels should be located on the asset in a position that is easily accessible and can be read by a bar code scanner while the asset is in normal use. For example, if the rear of an asset is not normally easily accessible while in use, the asset label needs to be located on a side that is easily accessible (e.g., the front of the asset). It is desirable that labels be located close to or adjacent to the manufacturer's identification markings (serial, model, etc) if that location is also easily accessible for scanning.

6.1 Number of labels

Only one FAA asset bar code label is to be affixed to an asset. In the case of replaceable or configurable modules, an asset label should be affixed to each of the lowest replaceable units within the assembly.

6.2 Application surfaces

Labels are intended to be applied to flat and curved rigid surfaces, which have been degreased and cleaned with solvent. Labels are not intended to be applied to Teflon, delrin, and their related chemical family.

Labels should not be placed over manufacturer labels or any silk-screened text designation on the item. Labels should not be placed over any indicators such as diodes (LED's) nor placed in a fashion that would detract from the utility of usability for which the item was designed or intended to function.

6.2.1 Rough surfaces

It is recommended that labels be located on clean, smooth, flat surfaces where possible, and on surfaces that provide direct visual access for a scanner and its operator. Labels should not be applied to rough surfaces, since these surfaces reduce adhesive performance.

6.2.2 Curved surfaces

Labels applied to curved or cylindrical surfaces should be applied along the axis of the cylinder to make the bar code visible and able to be scanned. If it is necessary to apply along the radial axis, the curve radius must not be less than 1.5 inches.

6.2.3 Irregular surfaces

Labels are not intended for irregular or bumpy surfaces, nor should they be applied to spherical surfaces or surfaces composed of compound curves.

6.3 Administrative assets

On administrative assets such as furniture and equipment, labels should not be located on decorative surfaces or to any surface subject to routine wear and abrasion.

7. Label Appearance

7.1 Label example

The examples in Section 4 show the format of the FAA asset label. The bar code and the human readable data are separate fields. Each field should not protrude on any other, thereby maintaining the ability to distinguish between them.

8. Government and Contractor Responsibilities

8.1 Government

The Government (FAA) is responsible for providing asset identification for all Government furnished properties.

The FAA is required to provide asset identification for all legacy assets (i.e., assets in the field). Labels produced by the FAA for its legacy assets (or produced by a third party specifically for the FAA's legacy assets) are to include the human readable letters "Property of DOT/FAA". These alpha

characters are not to be encoded. They are to be located above the linear bar code.

Figure 8-1 FAA Legacy Asset Label

8.2 Contractor

The contractor is required to provide asset identification for all assets that are delivered. This is to include an electronic Asset Identification Report per Contract Data Requirements List and Data Item Description (CDRL/DID) for new acquisitions, the number assigned to the asset and the number on the label (applied to the asset) against which all the attributes of the asset may be recorded in, or extracted from, the FAA's Automated Inventory Tracking System (AITS) database.

Labels applied by contractors will follow the specifications outlined in Figure 3-1, Label Specifications and shown in Figure 4.1, Label Samples.

It is the contractor's responsibility, using the contractor's EAN.UCC's Company Prefix (plus the unique asset reference number maintained by the contractor), to meet the labeling performance requirements as specified in this document.

Figure 8-2 Contractor Asset Labels

* In above example 0101010 should be replaced be the companies EAN.UCC assigned Company Prefix

9. Appendix

9.1 Selected Glossary

9.2 Definitions

Application Identifier:

The field of two or more characters, at the beginning of a string of data, which uniquely defines its format and meaning. For example, the Application Identifier for assets is 8004; it tells the scanning application that the data that follows is an asset number. This prevents common errors, like a serial number being scanned and mistaken for an asset number

Asset:

An item owned by an entity to which a value can be assigned; typically, items on a balance sheet that constitute the value of an organization.

Asset reference number:

A number assigned by the enterprise to an item providing for the differentiation of that item from any other item. The entity responsible for labeling assets is responsible and accountable for not duplication the asset reference number.

EAN.UCC Company Prefix:

A globally unique number assigned to companies by EAN Member Organizations to create the identification numbers of the EAN.UCC System.

Note: In the United States, the UCC® assigns a UCC Company Prefix that needs to be converted to an EAN.UCC Company Prefix by adding a leading zero; for example, FAA's UCC Company Prefix 602970 becomes 0602970.

Life Cycle:

There are two categories of life cycle:

a. Data. The stages through which data pass, typically characterized as creation or collection, processing, dissemination, use, storage, and disposition.

b. Information System. The phases through which information systems pass, typically characterized as initiation, development, operation, termination, and decommissioning.

Quiet Zone:

A clear space on a label, having no machine-readable marks, which precedes the Start Character of a bar code symbol and follows the Stop Character. Formerly referred to as "Clear Area" or "Light Margin."

X- Dimension:

The specified width of the narrow element in a bar code symbol: the narrowest nominal width unit of measure in a bar code symbol.

.UCC Company Prefix:

The number assigned to a company by the UCC®. The inclusion of the UCC Company Prefix ensures uniqueness throughout the world.

Note: In the United States, the UCC® assigns a company prefix that needs to be converted to an EAN.UCC Company Prefix by adding a leading zero; for example, UCC Company Prefix 602970 becomes 0602970.

9.2.1 Ongoing reference

For the purpose of this application guideline the terms and definitions given in Section 8, Glossary of Terms, of the *General EAN.UCC Specifications* shall apply. The *General EAN.UCC Specifications* is available at the Uniform Code Council, Inc. website at www.uc-council.org.

9.2.2 HRI

Human Readable Interpretation

9.2.3 ANSI

The American National Standards Institute designates standards submitted by their accredited Standards Development Organizations. The American National Standards Institute designation is awarded after the opportunity for public review and comment, and a certification by the Standards Development Organizations that due process was followed in the development of the standard. The UCC® is an accredited standards development organization.

9.2.4 ISO

Worldwide federation of national standards bodies promoting the development of standardization and whose work results in the publication of international standards

9.2.5 UCC®

The Uniform Code Council, Inc.® is a not-for-profit organization dedicated to the development and implementation of standards-based, global supply chain solutions.

9.2.6 EAN

EAN International, based in Brussels, Belgium, is an organization of EAN Member Organizations that co-manages the EAN.UCC System and Global Standards Management Process with the Uniform Code Council, Inc.®

9.3 Print Quality

ISO Standard for bar code print quality test specification (ISO/IEC15416)

Example of information available in above-referenced ISO document

9.3.1 Symbols and abbreviated terms

9.3.1.1 Abbreviations

9.3.1.2 Symbols

9.3.2 Measurement methodology

9.3.2.1 General requirements

9.3.2.2 Reference reflectivity measurements

- Measurement wavelength(s
- Measuring aperture
- Optical geometry
- Inspection band
- Number of scans

9.3.3 Scan reflectance profile

9.3.4 Scan reflectance profile assessment parameters

9.3.4.1 Element determination

9.3.4.2 Edge determination

9.3.4.3 Decode

9.3.4.4 Symbol contrast (SC)

9.3.4.5 Minimum reflectance (R_{min})

9.3.4.6 Edge contrast (EC)

9.3.4.7 Modulation (MOD)

9.3.4.8 Defects

9.3.4.9 Decodability

9.3.4.10 Quiet zone check

9.3.5 Symbol grading

9.3.5.1 Scan reflectance profile grading

- Decode
- Reflectance parameter grading
- Decodability

9.3.5.2 Expression of symbol grade

9.3.6 Substrate characteristics

9.4 Bar Code Symbology

ISO Standard for bar code symbology specification – Code 128 (ISO/IEC 15417)

Example of information available in above-referenced ISO document

9.4.1 Symbology characteristics

9.4.2 Symbol structure

9.4.3 Character assignments

9.4.3.1 Symbol character structure

9.4.3.2 Data character encodation

9.4.3.3 Code Sets

9.4.3.4 Special characters